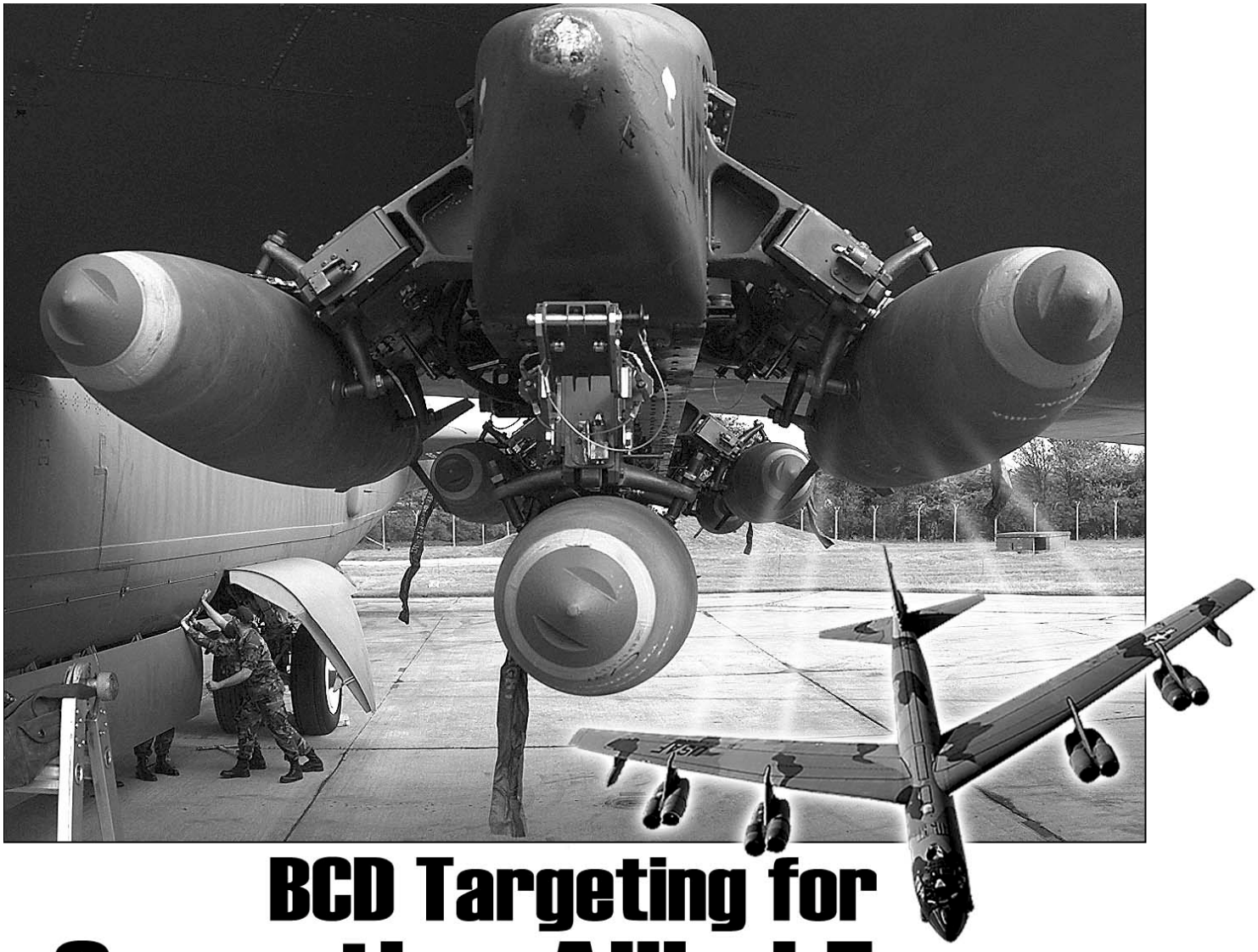


US B-52s, RAF Fairford, England, in Operation Allied Force (Photo by Air Force SSG Randy Mallard)

BCD Targeting for Operation Allied Force

by Lieutenant Colonel Robert S. Bridgford and Major Luke G. Grossman, USAF

Contrary to many accounts, Operation Allied Force in Kosovo was not an air campaign conducted solely by airmen and naval aviators. In actuality, Army personnel played a key role before and during the course of the campaign.

This article explains the targeting role the US Army Europe (USAREUR) Battle Coordination Element (BCE) played in the air campaign and, more importantly, emphasizes the part Army targeteers must play in future air campaigns against ground forces. (The BCE is an echelons-above-corps organization that recently was renamed battlefield coordination detachment, or BCD).

Army intelligence personnel are the experts in the intelligence preparation of the battlefield (IPB); their expertise, experience and analytical capabilities are critical to any effective joint targeting effort against enemy ground forces. The Operation Allied Force's Combined Air Operations Center (CAOC) at Dal Molin Air Base, Italy, received limited tactical-level Army intelligence support before and during its air campaign, creating a significant void in the joint targeting process, specifically targeting enemy ground forces. The BCE stepped in to fill that void to varying degrees from the initiation of the crisis in May 1998 through the end of the air campaign in June 1999.

The BCE provided targeting support in three phases. During Phase I, May 1998 through March 1999, it targeted fixed sites in support of the force buildup and the initial target sets for the first few days of the air campaign. The second phase of targeting began in late March 1999 when the Supreme Allied Commander Europe (SACEUR) directed the CAOC begin attacking Serbian mobile ground forces in Kosovo. The BCE continued to develop and recommend fixed targets and then develop, track and nominate mobile targets.

Phase III of targeting began 25 May 1999 when Task Force (TF) Hawk in

Albania submitted its first target nominations. TF Hawk was a V Corps force that consisted of Army attack helicopters, a multiple-launch rocket system (MLRS) battalion (1st Battalion, 27th Field Artillery, or 1-27 FA) and maneuver protection forces. This last phase fit within the BCE's doctrinal role of representing and advocating the Army force commander's (COMARFOR's) air support requests during the Air Force's air tasking order (ATO) and execution processes. Throughout Phase III, the BCE continued to develop and nominate fixed and mobile targets.

Targeting Serbian Ground Forces. In Phase II, the SACEUR directed the combined force air component commander (CFACC) focus on destroying Serbian ground forces in Kosovo. In response to the initial NATO bombing, the Serbian forces intensified their counterinsurgency operations against the Kosovar Liberation Army (KLA) and non-Serbian Kosovar civilians, thus creating more casualties and an ever-increasing flow of refugees. The intense media coverage of the unfolding tragedy resulted in the political need to "do something."

This political pressure created two problems for the CAOC. First, it had to conduct what was basically a "movement-to-contact" from 15,000 feet above the ground using air-to-ground aircraft without the intelligence support it needed to target the small tactical counterinsurgent elements.

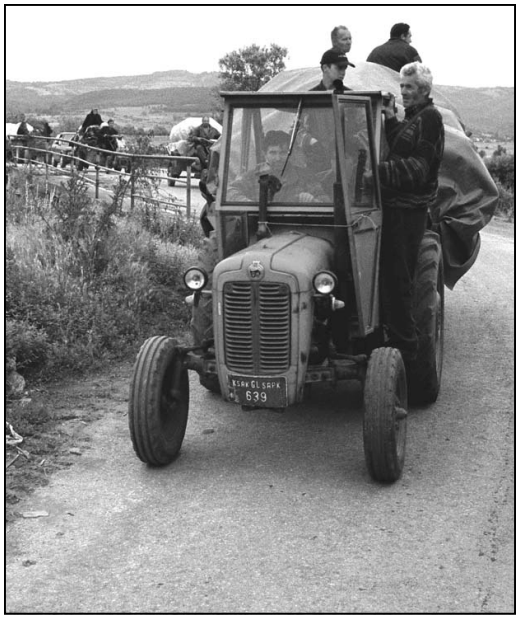
Second, the refugee flow was a significant obstacle to attacking ground forces because of the fear of striking innocent civilians and internally displaced persons. The CAOC had to track the movement of displaced persons and ensure they were a safe distance away before attacking the targets. The CAOC focused on carefully destroying ground forces without Army intelligence support to develop the IPB products it needed.

Ordinarily, the land component commander (LCC) would direct the ground campaign, requesting air support to augment his plan. The lack of a ground force and a designated LCC created a void in Army intelligence at the tactical level and a void in expertise to direct the attack against the Serbian ground forces. This is not to say that the CFACC needs Army help in controlling his aircraft—he doesn't. However, when there's no designated LCC or ARFOR and air forces must attack ground forces, Army maneuver expertise is needed to determine the strategy for defeating enemy ground forces. This strategy includes determining the priority and focus for collecting against, tracking, targeting and attacking enemy ground forces.

Trolling for Targets. In April 1999, the targeting process changed continuously in an attempt to compensate for the missing intelligence and command structure. Techniques for attacking ground forces included "trolling" for targets. Aircraft flew over Kosovo looking for enemy forces in the open. This was not very successful; the Serbs were smart and limited their operations to times when aircraft were not flying.

The Serbs also limited their exposure in the way they conducted counterinsurgency operations. They positioned armored vehicles on key routes in and out of a town and then used artillery to destroy many of the buildings in the town. After destroying any organized resistance and subjecting the residents to artillery fire, the Serbs then sent in dismounted troops to conduct more personalized destruction and killing. If they didn't kill all the residents, the Serbs created a refugee flow in the direction they desired.

These small Serbian platoon- or company-sized elements were the focus of the air campaign by April 1999. The Serbs did not present large formations of vehicles or troops in the open because they didn't need large concentrations of forces for their operations. Thus, the Serbs were able to disperse their forces. These Serbian techniques complicated the CAOC's new mission of finding and attacking enemy ground forces.



In response to the initial NATO bombing, the Serbian forces intensified their counterinsurgency operations against the Kosovar Liberation Army (KLA) and non-Serbian Kosovar civilians, thus creating more casualties and an ever-increasing flow of refugees.

In early April, the BCE began to increase its involvement in the targeting process at the CAOC in an attempt to fill the intelligence, targeting and strategy void. At that point, TF Hawk was issued a deployment order to move to Albania. By 9 April, the entire BCE, including augmentees, joined BCE elements already collocated with the 32d Air Operational Group (AOG) out of Ramstein AFB in Germany at the CAOC in Italy. The BCE prepared to conduct the doctrinal role of supporting an ARFOR (TF Hawk) in Phase II. Although TF Hawk was the *de-facto* ARFOR, it never was designated the LCC nor was the CFACC designated the "supported commander." In fact, TF Hawk never received employment authorization from the National Command Authority (NCA).

Fixed and Mobile Targets. Up to this point, a distinction had been made between fixed targeting and mobile or fielded forces targeting. The reason for the distinction is that the targeting process was divided into these two components at the CAOC. The fixed and mobile targeting processes were separate because of the nature of the targets, the different planning cycles required and the separate approval processes.

Fixed targeting called for traditional strategic attack (SA) and air interdiction (AI) missions against fixed facilities and infrastructure targets. The CAOC's intelligence structure and staff were well-suited to perform this doctrinal function. Their training and knowledge enabled them to perform superbly, given the political constraints of the rules of engagement (ROE) and targeting restrictions.

Fixed targeting went through a rigorous target approval process based on a collateral damage assessment, the location and type of the target and any political considerations. Given these considerations, target approval authority ranged from the CFACC to the NCA and the North Atlantic Council.

Mobile targets were Serbian ground forces, including temporary command posts, assault bridges and other mobile assets. It might be easier to

think of the mobile or fielded forces as forces that normally would be engaged by friendly ground forces, either through direct action or through close air support (CAS) or AI nominations to support ground maneuver.

The short dwell time of these mobile targets required a different approval process. Mobile or fielded forces went through a different series of checks and ROE considerations before they could be attacked. The critical factor was ensuring a target was neither a convoy of displaced persons nor a KLA force fighting against the Serbs. From 15,000 feet, it's very difficult to identify a target, let alone determine if it's an Army transport vehicle or a truck loaded with civilians or if it's Serbian artillery or KLA artillery. During the war, KLA forces captured Serbian artillery pieces and used them against the Serbs.

During Phase II of targeting support, the BCE's Plans and Intelligence Sections continued their efforts to develop, track and nominate fixed targets. As the air campaign progressed, the BCE's Plans Section became the proponent for fixed targets in southern Serbia and all of Kosovo from mid-April until the end of the air campaign. Both the BCE Plans Section and the CAOC targeteers recognized the unique expertise Army targeteers brought to the selection and prioritization of these target sets.

The BCE Plans and Intelligence Sections were composed of Army intelligence and artillery officers and NCOs and were, in essence, the missing targeting team. They focused on cutting lines of communications (LOCs) and isolating Serb forces by dropping bridges and striking barracks, command posts and any other fixed targets that degraded the Serbian Army's ability to conduct counterinsurgency operations. This fixed targeting process was later tied to targeting ground forces during Kosovo engagement zone operations through the coordinated efforts of the BCE's Plans and Operations Sections.

CAOC Organization. The fixed targeting process is a standard task of any AOC and is conducted by the strategy cell, guidance, apportionment and targeting (GAT) cell, master air attack planning (MAAP) cell and ATO production cell. The BCE Plans Section was integrated with those cells in its doctrinal role of ensuring the COMARFOR's requirements are advocated throughout the ATO cycle (Figure 1).

In targeting ground forces, requirements normally come from the CAS and AI nominations submitted by the ARFOR to support the ground campaign. This component was missing, so the only section in the structure available to fill the void was the CAOC's Flex Targeting Cell, which was responsible for mobile targets.

The flex targeting cell initially was comprised of two Air Force officers who focused on emerging integrated air defense threats; it grew to four Army intelligence personnel shifts who comprised the CAOC's Ground Analysis Cell. The current operations nature of this small section made it the obvious choice to assume the role of identifying emerging ground targets. This is the role of an Army analysis and control element (ACE).

Flex Targeting Cell. The CAOC Intelligence Director (C2) understood the need for Army intelligence personnel to help target ground forces and pushed

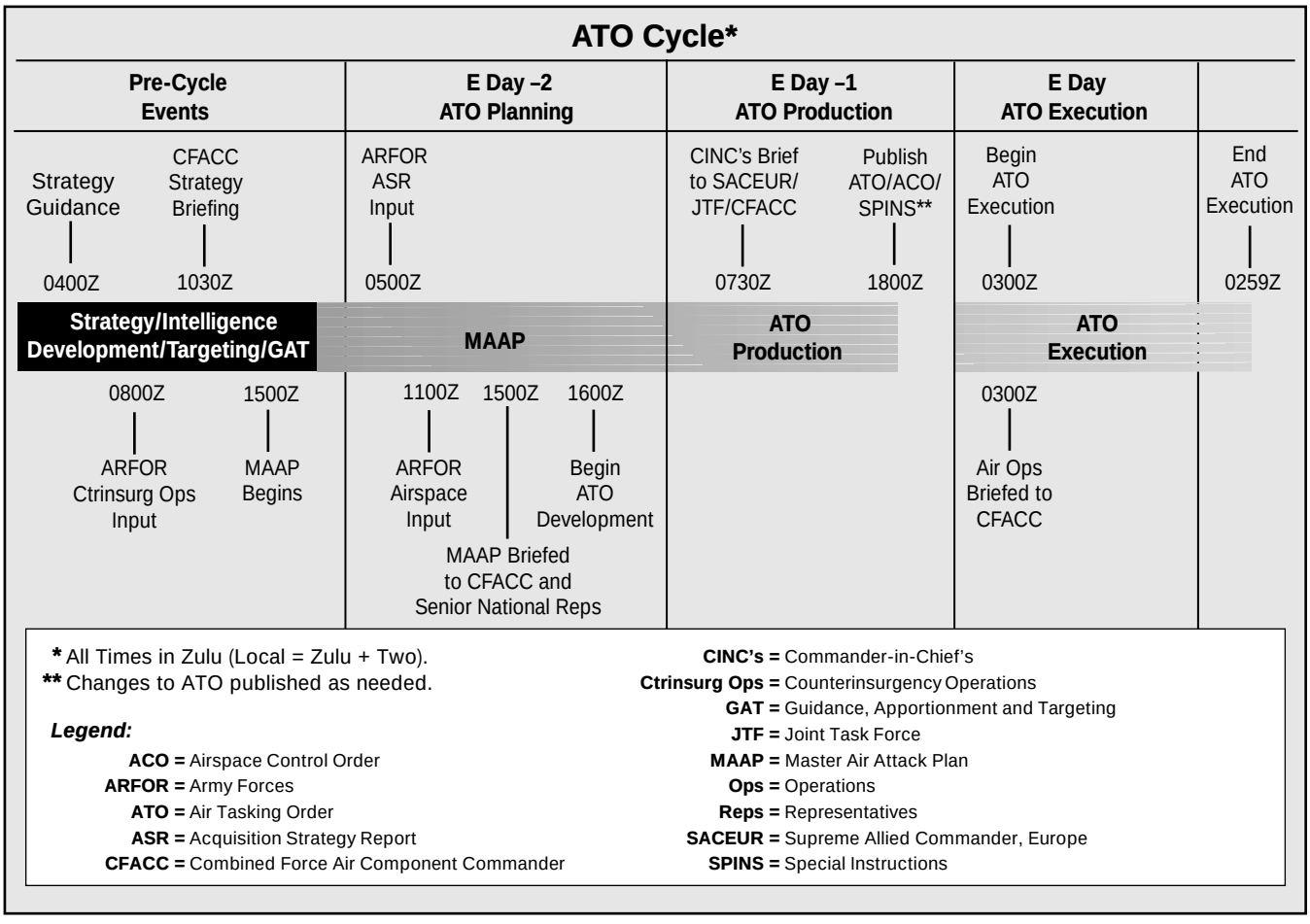


Figure 1: ATO Cycle During Operation Allied Force

for Army augmentees to fill out his targeting cell. He pushed for the BCE to perform the ARFOR ACE function. The BCE helped the CAOC's Flex Targeting Cell, but BCE manning did not provide the personnel and expertise to replicate an ARFOR ACE. The C2's request for Army intelligence personnel was partially filled with the arrival of an Army Military Intelligence (MI) captain from Hawaii, several Military Occupational Specialty (MOS) 96B Intelligence Analyst NCOs and one warrant officer from the 66th MI Group in Germany. They formed the ground analysis cell of the flex targeting cell.

This ground cell had one or two Army intelligence personnel per shift for most of the air campaign and grew to four Army intelligence personnel per shift, including BCE assistance, by the last week of the air campaign. The cell became responsible for building and tracking the enemy ground order of battle and determining the priority and focus for collecting, tracking, targeting and attacking enemy ground forces.

Designating flex targeting cell responsibility for targeting ground forces and trickling in Army intelligence personnel did not solve the problem of finding and attacking Serbian ground forces. By mid-April, the CAOC had to change how it developed ground force targets. The result was Kosovo engagement zone operations.

Kosovo Engagement Zone Operations. These operations were designed to develop targets and the supporting imagery to help the pilots find and destroy enemy ground forces. They were based on designating prioritized Kosovo engagement zone area of interest (AOI) boxes of approximately 20-by-20 kilometers each. This focused intelligence, surveillance and reconnaissance (ISR) assets to develop targets within the boxes. The focus was on a general area 96 hours out and selected AOI boxes 72 hours out. Then the ISR collection assets focused on the three prioritized AOI boxes to develop imagery products for targets.

At the 48-hour and 24-hour points, the AOI boxes were validated or redesignated, based on success or failure in developing targets in those boxes. At the 24-hour point, a focused collection effort was put on all targets developed in the previous 48 hours. The resulting imagery was consolidated into a Kosovo engagement zone target list for each AOI; the list was forwarded to the air-

Serbian detainees are escorted to the Kosovo-Serbian border by Marines from the 26th Marine Expeditionary Unit. *(Photo by SGT Craig J. Shell, 2d Marine Division)*

borne forward air controllers (AFACs) before their missions. This technique allowed the AFACs and pilots to pull imagery to help them find and engage targets in their Kosovo engagement zone AOI boxes.

If the CAOC's Ground Analysis Cell or BCE identified any emerging targets, they were passed to the AFACs via the Kosovo engagement zone operations cell on the CAOC combat operations floor. Additionally, any new targets identified by the AFACs, other pilots or unmanned aerial vehicle (UAVs) were added to the AOI target list.

The Kosovo engagement zone strategy was developed during a daily targeting meeting by an ad-hoc joint targeting team led by the CAOC's Kosovo Engagement Zone Operations Cell Chief and was comprised of the C2's Ground Analysis Cell, the BCE's Operations Section and a National Collection Management Cell (NCMC) representative. Later, members of the CAOC's MAAP Cell (fixed targets) joined the daily targeting meetings to ensure fixed targeting supported Kosovo engagement zone operations.

This ad-hoc strategy and targeting team tried to compensate for the lack of Army intelligence and targeting input from the LCC or ARFOR but, understandably, lacked the knowledge, experience, expertise and analytical capability of an ARFOR staff and ACE. The team's decisions were based on macro-level intelligence summaries (INTSUMs), not tactical-level IPB products. The only Army intelligence personnel focused on the ground situation at the tactical-level and providing those products to the CAOC were the C2's Ground Analysis Cell and the BCE's Intelligence Section. Those sections had a full-time task of tracking the enemy ground situation, monitoring displaced person's movements and ensuring that nominated targets met the ever-changing ROE—aside from their developing, tracking and nominating ground targets. The BCE Plans and Operations Sections had daily internal meetings to determine targeting priorities for fixed targeting to support Kosovo engagement zone operations.

TF Hawk Joins the Targeting Effort. The third and final phase of BCE support to the CAOC targeting began with TF Hawk's submitting target nominations on 25 May. TF Hawk's participation in the process continued until the end of the war, 9 June.

In the last two weeks of the air campaign, TF Hawk passed approximately 600 targets to the BCE as ad-hoc targets for Kosovo engagement zone operations, which the BCE pushed into the flex targeting process (Figure 2 on Page 18). The BCE screened the target nominations to ensure they were in Kosovo and did not violate the ROE or any no-fire areas (NFAs) or other fire support coordinating measures (FSCMs). The BCE tracked all targets and pushed them through the CAOC Ground Analysis Cell.

The CAOC Ground Analysis Cell verified the BCE's conclusions that the target nominations did not violate any ROE and checked the targets against known locations of displaced persons and KLA forces. If the targets met the

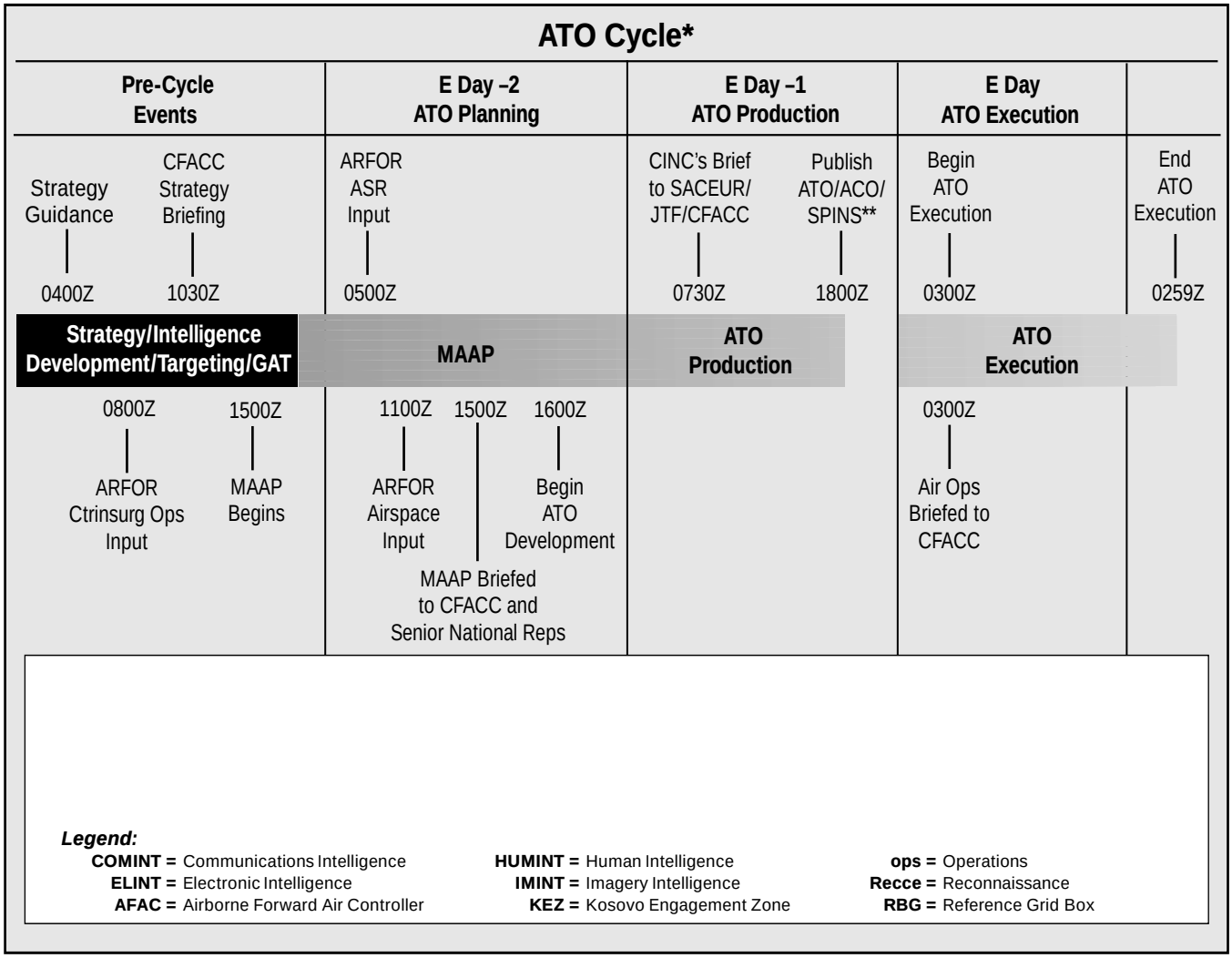


Figure 2: Flexible Targeting Process

required criteria, the nominations were taken to the C3 for approval and then to the Kosovo engagement zone operations representative in the CAOC. The representative radioed the targets to the airborne command and control center (ABCCC) that, in turn, passed the targets to an AFAC for action.

When the AFAC received the target, he or another pilot would check the target location and engage it *if* he concurred the target was positively identified as enemy. The Air Force never shied away from striking valid targets; on the contrary, they were extremely anxious to strike all targets that met the ROE.

The targeting process took five to 10 minutes from the receipt at the BCE Operations Section until the target specifics passed to the ABCCC.

There are two key points to take away from the 600 targets submitted by TF Hawk during the last two weeks of the war. First, this large number displayed the capability of an ARFOR using its intelligence and targeting resources to push targets to an AOC.

Second, the main reason a large number of targets were identified during the last two weeks of the war was because the Serbs then had to fight a capable enemy ground force, the KLA, for the first time during the war. The KLA's success in late May forced the Serbs to counterattack and array some of their forces in the open, making them much more vulnerable to attack from the air than at any other time during the air campaign.

All TF Hawk target nominations were submitted via automated deep operations coordination system (ADOCS) software as fire missions. ADOCS was the command, control, communications, computer and intelligence (C^4I) system TF Hawk was most familiar with. The BCE was loaned several ADOCS laptops and rapidly became proficient at using the software for receiving target nominations and coordinating airspace requests in support of TF Hawk mission rehearsal exercises (MREs). TF Hawk conducted MREs in preparation for the use of Apache helicopters in deep attacks into Kosovo. The CAOC supported the MREs while continuing to conduct combat operations.

B-1 and B-52 Strikes—"Heavy Drops." The last area of targeting was the "heavy drops" planned for B-1 and B-52 bombers. Throughout the air campaign, the BCE, in conjunction with the CAOC Ground Analysis Cell, developed assembly area (AA) targets for the B-52 and B-1 bombers. These targets were suspected Serb Army AAs or locations where they had collected forces. AA targets also had to be completely free of any possible collateral damage to facilities and away from any known displaced persons or KLA location. B-1 or B-52 bombers then tried to destroy all forces or equipment in the AA (approximately one square kilometer).

A B-52H Stratofortress sits on the ramp as a B-1B Lancer from the 77th Bomb Squadron, lands at RAF Fairford in support of NATO Operation Allied Force. *(Photo by Air Force SSG Efrain Gonzalez)*

During the last two weeks of the air campaign, TF Hawk passed heavy-drop target nominations to the BCE. The targets then were refined for the B-1 and B-52 planners to send a mission to their crews. The BCE Operations Section and CAOC Ground Analysis Cell analyzed each target to determine the disposition of the enemy forces on the ground and the best attack means. The targets were received on ADOCS and then displayed using its 1:50,000 digital maps. Aim points were determined to provide the best weapons' effects on those forces (i.e., dropping the bombs going uphill versus downhill so the effects and force of the blast went into a bunker or foxhole instead of skipping over it). The BCE Operations Section and CAOC's Ground Analysis Cell personnel then worked closely with the B-1 and B-52 planners to refine the aim points, direction of attack, the stick length (the length and width of the bomb impact and effects) and the sequence of the strikes.

After the joint targeting team of the BCE Operations Section, CAOC's Ground Analysis Cell and the B-1/B-52 planners agreed, a one-meter resolution image was created with the desired aim points, coordinates and other critical information displayed. This image then was sent to the aircrew either before or after they had taken off, along with any other pertinent targeting information.

Several techniques were used to enhance the effects of the heavy drops. One technique was to drop ground-burst munitions on a target and then delay for several minutes before dropping air-burst munitions in the hopes of catching the enemy moving out after the initial strike. Another technique was to follow a heavy drop with air-to-ground aircraft, such as A-10 Warthogs, to engage any remaining enemy forces that might have survived the initial drop. These and other techniques were developed based on watching UAV videos of heavy drops and the enemy survivors' reactions to the drops.

The effects of those heavy strikes during the last two weeks of the air campaign are still being debated and researched, but the initial reports received from the field claimed they were very effective in destroying Serbian ground forces, particularly in the Mount Pastrik region. Some of the heavy drops were close enough to KLA forces to have been considered CAS missions while most were probably more traditional AI missions. The B-1 and B-52 bombers were extremely effective and could have been even more effective supporting an Army ground force requesting CAS and AI support. Their accuracy and flexibility was tested many times during the air campaign.

In reading this article it is easy to misinterpret this information and assume the BCE had the personnel and capability to fill the intelligence and targeting void that existed, but that was not the case. The BCE did its best to fill that void, but the lesson to take away is that neither the BCE nor the CAOC's Ground Analysis Cell had the manning, experience or expertise to replicate—let alone replace—the ARFOR commander, his staff and his ACE.

Throughout Phases II and III of targeting support, the BCE also was very busy providing the doctrinal support to TF Hawk MREs. The BCE would have been even busier had TF Hawk been given the order to execute attacks.

If another conflict arises where air power alone is used against an enemy ground force and no LCC/ARFOR is designated or fielded, there must be augmentation to the combined/joint air operations center (C/JAOC) to perform the Army intelligence and targeting functions against those enemy ground forces.

The IPB is a core competency of the Army. Our doctrine and theater directives must reflect that requirement.

Lieutenant Colonel Robert S. Bridgford is the Plans Officer for the US Army Europe (USAREUR) Battlefield Coordination Element (BCE), Ramstein AFB, Germany. He was the Operations and Targeting Officer for the USAREUR BCE during Operation Allied Force. Among other assignments, he was the Executive Officer for the 2d Battalion, 3d Field Artillery, 1st Armored Division in Germany; Assistant Fire Support Coordinator for the 1st Armored Division; and Fire Support Officer (FSO) for the Nordic-Polish Brigade during Operation Joint Endeavor in Bosnia. In addition, he served as a Tactics Instructor of the Intelligence Center at Fort Huachuca, Arizona, and Commander of A Battery, 2d Battalion, 5th Field Artillery, 1st Infantry Division (Forward) in Germany. He's a graduate of the Joint Air Operations School at Hurlburt Field, Florida, and holds a Master of Public Administration from Shippensberg University, Pennsylvania.

Major Luke G. Grossman, Air Force, is Deputy Chief C3 of the Current Operations Division in the Combined Air Operations Center (CAOC), Vicenza, Italy. He was the Offensive Air Operations Branch Chief in the C3 Current Operations Division during Operation Allied Force as well as C3 Kosovo Engagement Zone Operations Cell Chief. Major Grossman is an F-16 pilot with operational experience in Europe and Korea. Before his assignment to Vicenza, he was Chief of Wing Standardization and Evaluation for the 52d Fighter Wing, Spangdahlem Air Base, Germany. He is a graduate of the US Air Force Squadron Officers School, Maxwell Air Force Base in Alabama, and holds a Master of Military Science in Land Warfare from American Military University, Manassa Park, Virginia. Major Grossman is slated to attend the Command and General Staff College, Class of 2000, at Fort Leavenworth, Kansas.